

1979 Bay Area Air Quality Plan

San Francisco Bay Area

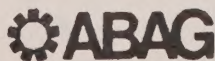
REPORT ON PLAN MODIFICATIONS

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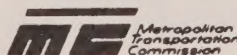
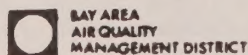
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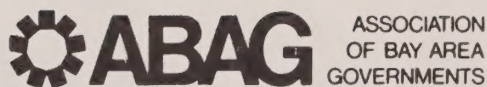
UNIVERSITY OF CALIFORNIA



ASSOCIATION OF BAY AREA GOVERNMENTS



This report is an updated version of a report made to the Regional Planning Committee of the Association of Bay Area Governments at its March 14, 1979, meeting. The earlier version, "Brief on Modifying the Plan," was made available for public review and comment prior to the April 19, 1979, and May 17, 1979 public hearings on proposed modifications to the 1979 Bay Area Air Quality Plan. The plan was adopted by the General Assembly of the Association on January 13, 1979. As modified by the Executive Board on May 17, 1979, the plan is to be submitted through the Air Resources Board to the U.S. Environmental Protection Agency as part of the State Implementation Plan for California.



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**ASSOCIATION OF BAY AREA GOVERNMENTS
EXECUTIVE BOARD RESOLUTION NO. 2-79
AMENDING THE 1979 BAY AREA AIR QUALITY PLAN**

- WHEREAS,** the General Assembly of the Association of Bay Area Governments on June 10, 1978, by Resolution 1-78 certified an Environmental Impact Report on the proposed Environmental Management Plan and by Resolution 2-78 adopted the Environmental Management Plan for submission to the Governor of the State of California in accordance with its environmental management work program approved by EPA; and
- WHEREAS,** the Air Resources Board in December 1977 notified local agencies of the designation of the San Francisco Bay Area Air Basin as a non-attainment area pursuant to the Clean Air Act Amendments of 1977; and
- WHEREAS,** the Association was designated in April 1978 by the Air Resources Board as the air quality planning organization responsible, under Section 174 of the Clean Air Act, for the preparation of the non-attainment plan required by Section 172 of the Clean Air Act (hereinafter referred to as the 1979 Bay Area Air Quality Plan); and
- WHEREAS,** a memorandum of understanding was executed by the Association, the Bay Area Air Quality Management District and the Metropolitan Transportation Commission in June 1978 delineating the respective responsibilities for preparation of portions of the 1979 Bay Area Air Quality Plan (hereinafter referred to as the memorandum of understanding); and
- WHEREAS,** numerous public hearings and extensive intergovernmental consultations were held on the 1979 Bay Area Air Quality Plan prior to its adoption; and
- WHEREAS,** the General Assembly of the Association on January 13, 1979, by Resolution 1-79 adopted the 1979 Bay Area Air Quality Plan as the plan required under section 172 of the Clean Air Act; and
- WHEREAS,** the 1979 Bay Area Air Quality Plan was submitted to the California Air Resources Board for inclusion in a revised State Implementation Plan to be submitted to the Environmental Protection Agency; and
- WHEREAS,** on January 24, 1979, the Executive Officer of the Air Resources Board informed the Association that the 1979 Bay Area Air Quality Plan was unacceptable in certain respects and requested revision of the plan; and
- WHEREAS,** the Administrator of the Environmental Protection Agency on January 26, 1979, announced a revision in the .08 ppm standard

for photochemical oxidant to a .12 ppm standard for ozone; and

WHEREAS, analysis of the effect of this revision shows 122 fewer tons of hydrocarbon emissions need to be controlled daily to demonstrate attainment of the revised standard by the deadlines specified in the Clean Air Act; and

WHEREAS, the staff of the Air Resources Board has acknowledged the Bay Area analysis of the impact of the standard change on the requirements for meeting the revised standard; and

WHEREAS, after extensive discussions with the staffs of the Air Resources Board and Bay Area Air Quality Management District, the staff of the Association proposed revisions to the 1979 Bay Area Air Quality Plan in a report to the Association's Regional Planning Committee on March 7, 1979; and

WHEREAS, due to deadlines imposed by the Clean Air Act for approval of the 1979 Bay Area Air Quality Plan as part of the California State Implementation Plan, the Association has had limited time to evaluate Air Resources Board comments on the 1979 Bay Area Air Quality Plan and the new .12 ppm ozone standard; and

WHEREAS, the Regional Planning Committee on March 14, 1979, accepted the recommended revisions with the understanding that they would be reexamined by the committee before October 31, 1979, to allow sufficient time for public hearings, Executive Board action, and voting by the General Assembly at its annual meeting early in 1980; and

WHEREAS, the Regional Planning Committee on March 14, 1979, requested that staff attempt to prepare any new technical information that would assist RPC assessment of these possible amendments; and

WHEREAS, the Executive Board of the Association, acting for the General Assembly, held public hearings on the proposed revisions on April 19, 1979 and May 17, 1979; and

WHEREAS, it is in the public interest of the citizens of the Bay Area to revise the 1979 Bay Area Air Quality Plan, responding to concerns of the Air Resources Board, while accommodating future economic growth in the region; and

WHEREAS, it is also in the public interest of the citizens of the Bay Area to have the 1979 Bay Area Air Quality Plan, as revised, submitted promptly to the Environmental Protection Agency by the Air Resources Board; and

WHEREAS, General Assembly Resolution 1-79 directed the Executive Board, between January 13, 1979, and the General Assembly's meeting in June 1979, to fulfill any obligations assigned to the Association (including that of Article 5.5 of the Government

Code of the State of California) with respect to State agency actions on the Environmental Management Plan, including the 1979 Bay Area Air Quality Plan;

NOW THEREFORE BE IT

RESOLVED, that the 1979 Bay Area Air Quality Plan recognizes new mobile source emission factors issued by the Environmental Protection Agency and a degree of technical uncertainty, the combination of which is the equivalent of approximately 40 tons/day in 1985 hydrocarbon emissions and is hereby incorporated into the baseline air quality forecasts; and be it further

RESOLVED, that the recommendation for the retrofit of heavy-duty gasoline vehicles (Action 5 of the plan recommendations for photochemical oxidants and Action 2 of the plan recommendations for carbon monoxide) be deleted from the 1979 Bay Area Air Quality Plan; and be it further

RESOLVED, that the 1985 hydrocarbon emission reduction target for review of new and modified stationary air pollution sources (Action 2 of the plan recommendations for photochemical oxidants) be reduced from 64 tons/day to 32 tons/day; and be it further

RESOLVED, that the 1979 Bay Area Air Quality Plan includes an emissions growth allowance of 25 tons/day in 1985 hydrocarbon emissions; and be it further

RESOLVED, that it is not the intent of this plan to mandate regional population restrictions as a control measure for attaining Federal ambient air quality standards; and be it further

RESOLVED, that the Association and Bay Area Air Quality Management District shall develop, pursuant to the memorandum of understanding, alternative recommendations for a decision-making process for the use of the emissions growth allowance no later than October 31, 1979; and be it further

RESOLVED, that the agreed upon process shall be integrated with the procedures for satisfying the industrial siting requirements of the Clean Air Act and Continuing Planning Process Action 6.3 of the Environmental Management Plan; and be it further

RESOLVED, that the Joint Technical Staff will review and update organic emission inventories and air quality projections for ozone and report the results, together with alternative recommendations for possible changes to the air quality plan, for action by the General Assembly at its annual meeting early in 1980; and

RESOLVED, that the Association recognizes and supports the commitment of the Bay Area Air Quality Management District by Resolution No. 1127 to review and consider, within the time requested by the Environmental Protection Agency, the control technique

guidelines being promulgated by EPA for organic emissions, and to require the implementation of all reasonably available control measures as expeditiously as practicable; and be it further

RESOLVED, that the Executive Board accepts the text of the "Report on Plan Modifications" (marked Exhibit A and incorporated herein by reference) describing in detail the above amendments to the 1979 Bay Area Air Quality Plan; and be it further

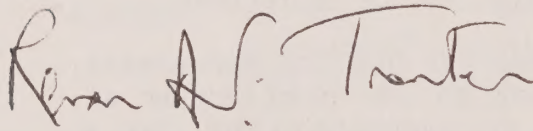
RESOLVED, that the Executive Board reaffirms all other provisions of the 1979 Bay Area Air Quality Plan and, except as otherwise specified above, incorporates herein by reference General Assembly Resolutions 1-78, 2-78 and 1-79; and be it further

RESOLVED, that the Executive Board expresses appreciation to the Air Resources Board for helping to resolve issues raised about the provisions of the January 13, 1979 version of the 1979 Bay Area Air Quality Plan; and be it further

RESOLVED, that the Association requests the Air Resources Board to accept the provisions of the 1979 Bay Area Air Quality Plan, as amended this date, and submit such revised plan to the Environmental Protection Agency pursuant to the Clean Air Act.

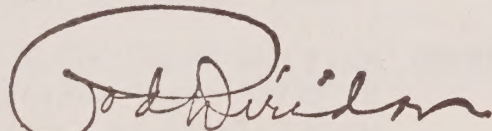
The foregoing resolution was approved by the Executive Board this 17th day of May, 1979.

Attest:



Revan A. F. Tranter
Secretary-Treasurer

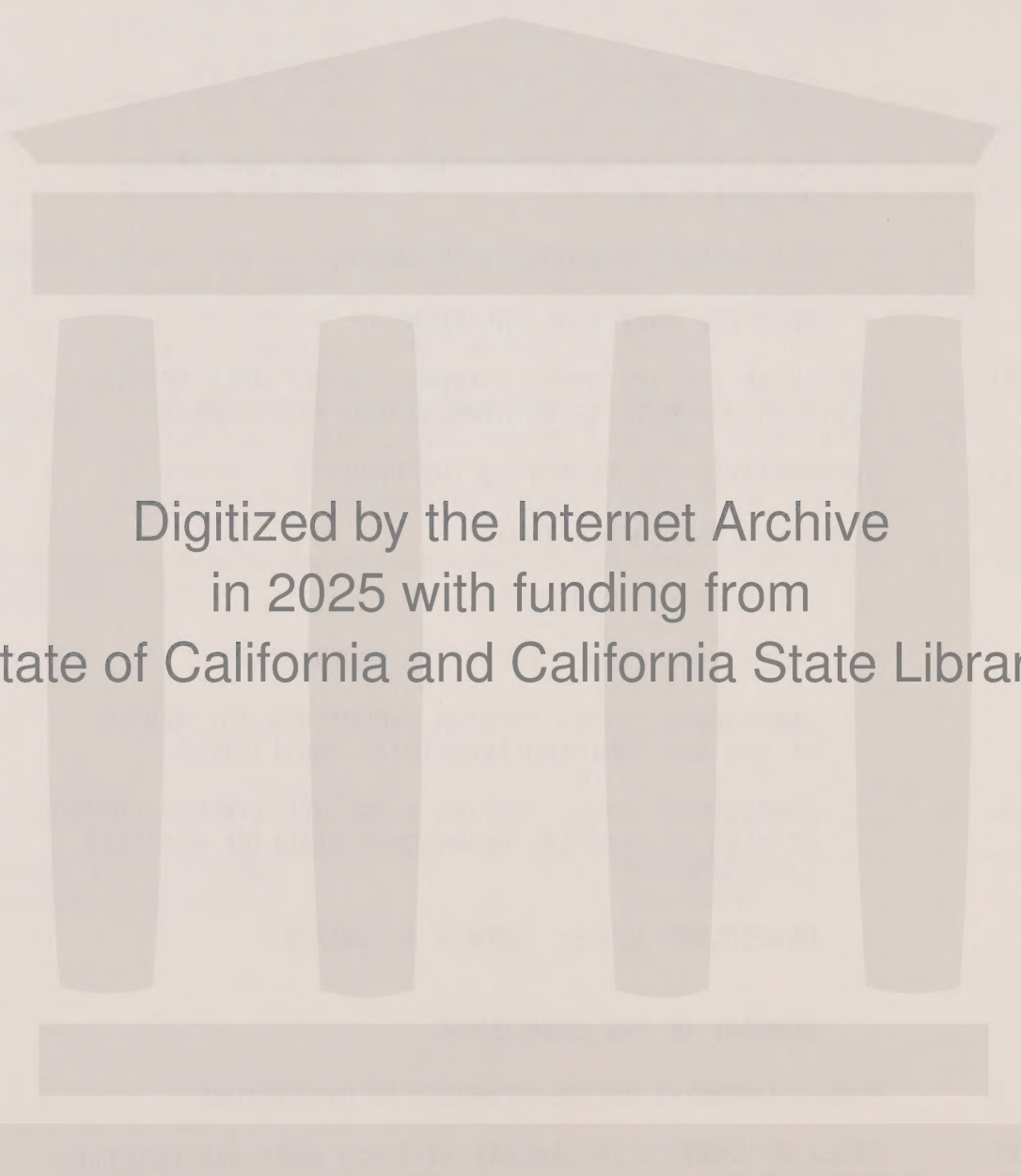
Signed:



Rod Diridon
President

REPORT ON PLAN MODIFICATIONS
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I. BACKGROUND

This report describes the current status of the 1979 Bay Area Air Quality Plan, and analysis conducted to indicate what changes might be possible in the plan as a result of a revision in the photochemical oxidant standard by the Federal Environmental Protection Agency. Changes in the plan are recommended by the staff of the Association of Bay Area Governments. These changes have been discussed with the staffs of the Bay Area Air Quality Management District, the Metropolitan Transportation Commission, and the Air Resources Board.

1979 BAY AREA AIR QUALITY PLAN ADOPTED IN JANUARY 1979

The San Francisco Bay Area is designated under the 1977 Clean Air Act as a region where three national ambient air quality standards are being exceeded. Under the 1977 Clean Air Act, the Association of Bay Area Governments was designated by the California Air Resources Board to prepare, in cooperation with the Bay Area Air Quality Management District and the Metropolitan Transportation Commission, a non-attainment plan for meeting Federal standards for oxidant, carbon monoxide (CO) and total suspended particulates (TSP). This plan is required under Section 172 of the Federal Clean Air Act. It is to be included in a revised State Implementation Plan and submitted to the U.S. Environmental Protection Agency (EPA).

ABAG's General Assembly adopted an air quality maintenance plan in June 1978. That plan was designed to reduce hydrocarbon emissions, provide for attainment of the Federal oxidant standard by 1985-87 and maintain the standard thereafter. The AQMP formed the basis for the oxidant control strategies of the Bay Area's non-attainment plan. The 1979 Bay Area Air Quality Plan also addressed the carbon monoxide and total suspended particulate problems in the region.

Air quality standards are set to protect public health. The air quality controls of the 1979 Bay Area Air Quality Plan are designed to meet the requirements of the Federal Clean Air Act. In the case of TSP, the Clean Air Act requires attainment of the primary standard by 1982. In the cases of the oxidant and CO standards, attainment is also required by 1982, but an extension may be granted by EPA to 1987. An extension is possible if the standards cannot be met by 1982 despite implementation of all reasonably available controls.

The 1979 plan represents a cooperative, multi-agency effort over the past three years -- first to develop an AQMP for oxidant to meet the requirements of the 1970 Clean Air Act (adopted by ABAG's General Assembly in June 1978) and second to develop controls for carbon monoxide and total suspended particulates. The resulting effort is the 1979 plan required by Congress in the 1977 Amendments to the Clean Air Act. The plan was adopted by the General Assembly of ABAG on January 13, 1979, and submitted to the California Air Resources Board.

At that time it was generally agreed that the most difficult air quality standard to meet in the Bay Region was the Federal one-hour 0.08 ppm photochemical oxidant standard. Most of the discussion in the 1979 Bay Area Air Quality Plan concentrated on the oxidant problem in the region. It included an exhaustive examination of the nature of the problem, alternative control strategies, a comprehensive set of specific recommendations that, if implemented on the schedule adopted by the General Assembly, were estimated to reduce hydrocarbon emissions sufficiently to meet the oxidant standard by 1985-87. Attainment by 1982 of the 0.08 ppm standard is not possible in the Bay Area, and the five-year extension was requested.

In the case of carbon monoxide, the plan described the nature of CO problems in the Bay Area and outlined the technical difficulties in preparing a regional plan for a pollutant where levels vary widely throughout the region. The 1979 plan showed how several actions to control hydrocarbon emissions adopted by the ABAG General Assembly in June 1978 will also provide reasonably further progress in meeting the CO standard. However, a more extensive technical analysis of CO problems is necessary to demonstrate that attainment of the CO standard will be achieved at all locations. The plan outlined a program for development of a more technically defensible and publicly acceptable plan over the next two years to meet CO standards in the locations where the localized violations occur. Extensive involvement of local agencies is expected to produce more substantial progress at attaining the CO standard throughout the region.

In the case of total suspended particulates, the plan described the recent history of violations of various Federal and State particulate standards, documented key factors behind the excessive particulate levels experienced in recent years, and described how those factors have changed. Most recent monitoring data of the Bay Area Air Quality Management District shows the Federal primary standard is now being attained and the plan called for redesignation of the Bay Area (specifically Alameda County) as an attainment area for the Federal primary TSP standard. The plan also outlined a program for attaining other Federal and State particulate standards as part of the air quality continuing planning process.

Actions of the plan to reduce hydrocarbon emissions included:

- Use available control technology on existing hydrocarbon sources.
- Continue the review of new and modified industrial facilities (new source review), using offsets and other provisions of the Clean Air Act Amendments of 1977. Use technology to produce lowest achievable emission rate on new and expanded hydrocarbon sources.
- Implement more stringent vehicle exhaust emission standards.
- Implement Statewide vehicle inspection and maintenance program.*
- Require exhaust control devices on existing heavy duty gasoline vehicles Statewide.*
- Preferential parking for carpools and vanpools.*
- Provide additional transit service through three-fold transit improvement strategy.*
- Support development of high occupancy vehicle lanes and/or ramp metering on selected freeway segments when justified on an individual project basis.*
- Provide more ride sharing services such as jitneys and vanpools.*
- Develop more extensive and safe bicycle systems and storage facilities.*
- Adopt additional measures to ensure maintenance of the oxidant standard beyond 1985-87.

Actions with asterisks also reduce carbon monoxide emissions. Also included in the plan was an extensive program for the continuing air quality planning process in the Bay Area.

AIR RESOURCES BOARD OUTLINES "DEFICIENCIES" OF 1979 PLAN

On January 24, 1979, the Executive Officer of the California Air Resources Board informed ABAG that "deficiencies still exist in the plan which make approval by the EPA unlikely." Three "major deficiencies" make the Bay Area plan "unacceptable

as a SIP revision" in the ARB staff's view. Quoting from the letter, the "deficiencies" were:

1. The plan does not include industrial source control measures beyond those which have already been adopted by the Bay Area Air Quality Management District or which have already been required by the Environmental Protection Agency (EPA) as the minimum acceptable controls. Measures such as the Reasonably Available Control Measures (RACMs) defined in ARB Model Rules are available but have not been included in your plan. Since credit is taken in the plan for reductions for stationary sources beyond the reductions possible through the implementation of the control measures contained in the plan, it will be necessary for the plan to be modified.
2. The plan does not contain a New Source Review (NSR) Rule which meets the requirements of Section 173 of the Clean Air Act. The ARB is currently considering a Model NSR Rule which meets the requirements, and the plan needs to make provision for incorporation of that rule or an equivalent. In addition, the 64 ton/day credit claimed in the plan for NSR is insufficiently supported.
3. The plan contains a measure for catalytic retrofit of heavy-duty gasoline vehicles and identifies ARB as the implementing agency. Not only does ARB lack the authority to implement such a program, the ARB has gone on record several times stating that it does not consider such a measure appropriate for California or feasible to implement. If this measure is not deleted from the plan, then it is a virtual certainty that federal sanctions (for failure to comply with the plan) will be imposed on the Bay Area.

The Executive Officer asked that a meeting of the participating agencies be held to discuss corrective actions. Subsequently, the meeting was held. The issues covered in this brief were all discussed in detail with the ARB, ABAG and BAAQMD staffs.

EPA CHANGES AIR QUALITY STANDARD

On January 26, 1979, the EPA administrator announced a revision in the photochemical oxidant standard. The revision relaxed the standard in two ways. First, the numerical standard was changed from 0.08 ppm to .12 ppm. Second, the new standard calls for measuring ozone -- one of many photochemical oxidants. These changes obviously affect the stringency of plans to meet the standard by the dates specified in the Clean Air Act Amendments.

NEED FOR MODIFYING THE PLAN

In view of the circumstances described above, the Bay Area is presented with an unusual opportunity. The plan was designed so that changes could be made by local governments in the region. Under State law, the Air Resources Board is prohibited from unilaterally changing the plan. If deficiencies in the plan are believed to exist, the plan is to be returned to ABAG for revision.

The change in the standard allows the local governments of the Bay Area to modify the plan to accommodate the remaining concerns of the Air Resources Board. If this can be achieved, the Bay Area will be one step closer to something yet to be achieved in California -- an approved State Implementation Plan.

II. IMPACT OF THE NEW OZONE STANDARD ON BAY AREA REQUIREMENTS TO DEMONSTRATE ATTAINMENT AND MAINTENANCE

The change in the ozone standard to 0.12 ppm means that the amount of hydrocarbon emissions which may now be allowed in the region is greater than that allowed in the 1979 Bay Area Air Quality Plan. Based on a review of previously prepared LIRAQ analyses and supporting data, the allowable emissions level corresponding to attainment of the new standard can be estimated. This information is summarized in Table 1, which indicates that additional emissions of approximately 122 tons per day may be allowed in the plan.

Table 1. Impact of the New Ozone Standard on Allowable Hydrocarbon Emissions in the Bay Area

	Old Standard (0.08 ppm)	New Standard (0.12 ppm)
Percent hydrocarbon emission reduction required to meet the standard in 1985	43%	27%
Allowable hydrocarbon emissions (tons/day)	< 450	< 572

In March 1978 EPA published revised estimates of motor vehicle emission factors for use in the preparation of revisions to State Implementation Plans (SIPs). These revised figures were not included in the Bay Area plan since the technical work had been completed and it was anticipated that the revised factors would be incorporated as part of a subsequent plan revision effort. The revised factors indicate that Bay Area motor vehicle hydrocarbon emissions in 1985 will be approximately 20-25 tons/day greater than what was originally projected in the plan. Thus, the additional hydrocarbon emissions allowed by the new ozone standard are in effect reduced to about 100 tons/day.

III. ALTERNATIVES FOR MODIFYING THE PLAN

There are a number of alternatives for modifying the plan to reflect the revised ozone standard and the corresponding allowable emissions level:

1. No change - The 1979 Bay Area Air Quality Plan provides for attainment of the 0.08 ppm oxidant standard by 1985. If no changes are made in the plan, the 0.12 ppm standard would be attained by about 1983-84, and air quality would thereafter continue to improve to a level that is cleaner than that required by the new Federal standard.
2. Delay the implementation schedule for selected control programs - The Clean Air Act of 1977 requires meeting the standard by 1982, with a possible extension of up to 5 years (to 1987), if it can be demonstrated that it is unreasonable to meet the standard by 1982. However, since the plan has been broadly accepted and endorsed by Bay Area cities, counties, and numerous other public and private organizations, it would be difficult to argue that a delay in the implementation schedule is warranted without new evidence/information being presented.
3. Additional nitrogen oxides (NO_x) control - Previous analysis indicated that reducing NO_x emissions can result in higher oxidant levels in the Bay Area than would occur if only hydrocarbon emissions were controlled. However, there is evidence that NO_x emissions in urban areas contribute to oxidant/ozone problems in downwind rural areas. From a Statewide perspective, NO_x emission reductions in the Bay Area may be important for controlling ozone in downwind locations such as Monterey, Sacramento Valley, and San Joaquin Valley. This issue is controversial. The Air Resources Board, in carrying out its responsibilities for achieving clean air goals Statewide, may elect to implement additional NO_x controls in the Bay Area. If so, additional hydrocarbon emission reductions will be needed in the Bay Area to prevent a worsening of oxidant levels within the region. In the current context, this means that the amount of additional hydrocarbon emissions allowed by the new standard may be less than the 122 tons/day shown in Table 1 if additional NO_x controls are implemented.

4. Relax hydrocarbon controls for stationary sources - Relaxing stationary source controls can be accomplished in a number of different ways. The most significant distinction to be made is whether to relax controls on existing sources or new sources. For example, controls on existing sources could be relaxed by allowing greater flexibility in the granting of exemptions for small businesses; controls on new sources could be relaxed by providing a "growth allowance" for such sources. The provision of a growth allowance means that in the application of the New Source Review rule some additional growth in major stationary source emissions could be accommodated without necessarily requiring that sources obtain emission offsets or use technology that would result in the lowest achievable emission rate as currently required.
5. Relax hydrocarbon controls for mobile sources - Relaxing mobile source controls can also be accomplished in a number of different ways. The most significant options are to drop the heavy duty gasoline truck retrofit program and/or relax the transportation controls. The motor vehicle inspection and maintenance program is required by the Clean Air Act in regions which cannot demonstrate attainment of oxidant or carbon monoxide standards by 1982, and thus must remain in the plan. The more stringent vehicle emission standards recommended for post-1990 vehicles is a maintenance measure which has no bearing on the demonstration of attainment.
6. Combinations of (2) and (5) - The additional hydrocarbon emissions allowed by the new standard may be allocated in a variety of ways amongst the alternatives described.

IV. REMAINING UNRESOLVED ISSUES

The previous sections provide the background for discussion of the remaining unresolved issues. The key elements are: (1) professional differences of opinion exist on the adequacy of the ABAG adopted 1979 Bay Area Air Quality Plan and (2) the recent change in the 0.08 ppm photochemical oxidants standard to 0.12 ppm ozone requires the plan be modified to reflect the new standard. To date, the major differences have been between the ABAG/BAAQMD/MTC and ARB, which must approve the Bay Area plan. The standard change permits sufficient flexibility that resolution of any remaining issues is possible.

THE NEED FOR COMPROMISE

The need for compromise can be simply stated. The ARB must approve the Bay Area plan before it is submitted to EPA for Federal approval. The ARB has stated it will not submit a plan that it feels is technically deficient. However, because of the passage of SB 2167, the ARB cannot change the Bay Area Air Quality Plan if it deems it deficient. ARB is required by State law to return the plan to ABAG for any correction of deficiencies. Given this situation, the possibility that regional and State agencies will arrive at an impasse is real. It would be unfortunate if an impasse were reached. The net effect would be no approved State Implementation Plan for the Bay Area by July 1, 1979, and the possibility of various Federal sanctions being imposed on the region.

The following pages present the major remaining unresolved issues between the region's air quality plan and the ARB review of the plan. In each case, information and a discussion of the technical and political issues are presented. Finally, a staff recommendation is presented for dealing with the issue, including an assessment of the effect of the recommended changes on the plan.

UNRESOLVED ISSUE: Technical uncertainty

BACKGROUND: There are two basic sources of uncertainty in the plan -- uncertainties related to the projections and those arising from inaccuracies in the data and analysis tools used. Uncertainties generally occur in two directions -- that is, they may result in either underestimates or overestimates of the control programs needed.

Despite the many assumptions made, a rigorous, objective forecast is a necessary element of any plan. To deal with analytical uncertainties, an open process was maintained and advice was solicited to ensure maximum objectivity in the analysis.

DISCUSSION: Large uncertainties exist in any comprehensive and systematic analysis of air quality problems. In some cases the uncertainties have led to delaying needed control programs. In other cases, the uncertainties have been inappropriately used in analyses that rationalized or supported a particular viewpoint.

The 1979 Bay Area Air Quality Plan was developed openly with the best available analytic tools. Technical objectivity was a goal sought by all involved. Many opportunities for public input were provided.

Despite the Bay Area's efforts to be objective and open, many questions were raised about data, analysis techniques and projections by the ARB in its review of the plan. Since the plan was adopted, new and updated information has become available. The ARB has requested that new data it has developed be included in the plan. Such a request cannot be easily accommodated without major efforts to re-do much of the technical analysis. The Bay Area staffs feel the continuing planning process is an appropriate time and place to consider new information. Nevertheless, the staffs also recognize that, to the extent possible, the plan to be submitted to ARB and EPA can reflect technical uncertainty generally to account for and resolve disagreements over the emissions inventory, pending the scheduled updating of the inventory.

STAFF RECOMMENDATION: Explicitly acknowledge technical uncertainty in the plan's data base, projections and analytical methodologies. Give the ARB "the benefit of the doubt" by building in approximately 3 percent uncertainty into the baseline hydrocarbon emission projections (it is acknowledged by most professionals that the actual \pm uncertainties are

much more substantial). The effect of this would be to assume 18 tons/day of hydrocarbon emissions as an uncertainty factor.

For plans prepared to cover other non-attainment regions, the ARB has corrected or indicated substantial inadequacies in the emissions inventories, and in many cases has substituted air quality analysis performed by the ARB for the air quality analysis performed locally. In the Bay Area's case, the ARB is recognizing the adequacy of the analysis and the Bay Area agencies' staffs are recognizing the need to update the emissions inventory. The proposed allowance for technical uncertainty, then, should not be interpreted as a precedent that subsequent plans will automatically need to acknowledge 3% uncertainty. A more accurate characterization of the proposed modification is as an agreement between ARB and the Bay Area that allows resolution of disagreements over the emission inventory until the inventory is updated during the continuing planning process provided in the plan.

PROPOSED ALLOCATION OF THE ADDITIONAL ALLOWABLE HYDROCARBON EMISSIONS

Additional hydrocarbon
emissions allowed by
standard change

Approximately 122 tons/day

Correction for updated EPA
mobile source emission
factors

~ 22 tons/day

Remaining Allowance

~100 tons/day

Unresolved Issues

1. Technical uncertainty (~3%)

~18 tons/day

Remaining Allowance

~ 82 tons/day

UNRESOLVED ISSUE: "Action 2 - Continue the review of new and modified industrial facilities (new source review)."

BACKGROUND: The BAAQMD has had in effect some form of NSR rule since 1972. The current NSR rule was adopted by ARB for the District in December 1977. The ARB's actions were designed to provide additional flexibility (e.g., external emission offset provisions) in the Bay Area.

Federal and State requirements for an acceptable NSR rule are and have been evolving for some time. ARB has recently drafted a model NSR rule that is supposed to meet all EPA requirements for such a rule. The BAAQMD has been holding public hearings on a NSR rule and will consider the ARB model rule in the near future.

DISCUSSION: The ARB, as previously noted, identifies two deficiencies with Action 2 in the Bay Area plan. The deficiencies are: (1) inadequacy of the NSR rule adopted, and (2) inadequate technical justification for the 64 tons/day hydrocarbon emission reduction credit targeted in the plan.

The ARB model NSR rule is currently being evaluated by the BAAQMD staff. In the near future, the BAAQMD Board of Directors will consider either the ARB model NSR rule or an equivalent. Once such a rule is adopted, the issue of rule "adequacy" will be settled.

Estimating what emission reductions are likely to be achieved through NSR is extremely difficult. The original 64 tons/day estimate assumed the NSR rule currently in place in the Bay Area. Unfortunately, both the national and California experience with concepts such as external emission offsets is very limited and far too sketchy to attempt any regional extrapolations. For example, calendar year 1978 was the first complete year of the current NSR rule in the Bay Area. The BAAQMD has reviewed the permit record for that period and observed:

- The net reduction in hydrocarbon emissions in the Bay Area from the amount which would otherwise be expected due to normal growth was 7 tons per day;
- Of the 7 tons per day reduction, 4 tons per day were due to denials of permits that would otherwise have been approved if no NSR rule were in effect;
- The remaining 3 tons per day reduction was due to "on-site banking," where, for example, existing sources have reduced emissions in advance of making planned modifications (these emissions may be re-claimed within a five year period).

- There were no off-site trade-offs applied for in 1978, and it is expected that the greatest potential for achieving emission reductions through NSR is through this mechanism.

The Bay Area staff feel the 64 tons/day estimate is optimistic, but within the limits of reasonable engineering judgment. ARB staff would prefer a much more conservative estimate of no emission reduction credit for NSR.

Lastly, the ARB model NSR rule being considered is generally viewed as less stringent than the current Bay Area NSR rule. Thus, any NSR rule adopted that is less stringent than the current rule would be less effective in reducing emissions.

STAFF RECOMMENDATION: Support the adoption of the ARB model NSR rule or an equivalent for the Bay Area. Reduce the emission reduction target for the new NSR rule to 32 tons/day. The effect of this recommendation would be the adoption of an approvable NSR rule estimated to reduce 32 tons/day of hydrocarbon emissions (versus the prior target of 64 tons/day of hydrocarbon emissions).

PROPOSED ALLOCATION OF THE ADDITIONAL ALLOWABLE HYDROCARBON EMISSIONS

Additional hydrocarbon emissions allowed by standard change	Approximately	122 tons/day
Correction for updated EPA mobile source emission factors		~22 tons/day
<hr/>		
Remaining allowance		~100 tons/day

Unresolved Issues

1. Technical uncertainty (~3%)		~18 tons/day
2. NSR Rule (adopt ARB model rule or equivalent)		~32 tons/day
<hr/>		
Remaining allowance		~50 tons/day

UNRESOLVED ISSUE: "Action 5 - Require exhaust control devices on existing heavy duty gasoline vehicles Statewide"

BACKGROUND: As passenger vehicles comply with more and more stringent exhaust emission standards, gasoline trucks (i.e., heavy duty vehicles) account for a disproportionate share of motor vehicle emissions. These trucks also tend to have very long useful lifetimes on the road and high annual average mileages. The need to reduce gasoline truck emissions is widely acknowledged by air pollution control strategists. This recognized need led the ABAG staff to develop and recommend Action 5, cited above.

DISCUSSION: The technical feasibility of the program is somewhat uncertain. Technical studies evaluating prototypes of the proposed catalytic converter retrofit have identified the potential effectiveness and problems of carrying out the program. To date, ABAG has stressed the potential of the program while the ARB has stressed the problems that would plague such a program. Unfortunately, the experience gained to date in testing prototype retrofit devices is inconclusive. The technical feasibility of such a program has not been studied to ARB's satisfaction.

The political feasibility of the program is doubtful at best. ARB's experience with a NO_x retrofit program in the early 1970s in part accounts for its reluctance to pursue the necessary legislation to carry out such a program. Without active ARB support of such a program the chances of securing the needed implementing legislation are practically nil.

The Clean Air Act §108f (1)(A) requires the ARB to consider the following:

- (xvi) programs for the conversion of fleet vehicles to cleaner engines or fuels, or to otherwise control fleet vehicle operations;
- (xvii) programs for retrofit of emission devices or controls on vehicles and engines, other than light duty vehicles.....

ABAG is not aware of systematic and comprehensive consideration of the above programs, as required by the act.

In summary, the ARB has repeatedly requested ABAG to delete this measure from the plan. The measure has remained in the plan for several reasons: (1) need for a comprehensive strategy; (2) previous need of the measure to demonstrate attainment by 1985-87; (3) equity and a sense of fair play in the ARB's responsibility for sharing the region's air pollution control burden.

STAFF RECOMMENDATION: Delete this measure from the plan.
 The net effect is approximately 25 tons/day of hydrocarbon emissions and 600 tons/day of carbon monoxide emissions will not be controlled by 1985. In the case of carbon monoxide, this means that attainment of the CO standards will be delayed until 1985, compared to the original projection of attainment by 1984.

PROPOSED ALLOCATION OF THE ADDITIONAL
 ALLOWABLE HYDROCARBON EMISSIONS

Additional hydrocarbon emissions allowed by standard change	Approximately	122 tons/day
Correction for updated EPA mobile source emission factors		~ 22 tons/day
<hr/>		
Remaining allowance		~100 tons/day

Unresolved Issues

1. Technical uncertainty (~3%)		~ 18 tons/day
2. NSR Rule (adopt ARB model rule or equivalent)		~32 tons/day
3. Delete heavy duty gasoline retrofit		~25 tons/day
<hr/>		
Remaining allowance		~25 tons/day

UNRESOLVED ISSUE: Growth allowance

BACKGROUND: Section 172 (b)(5) of the Clean Air Act requires that the State Implementation Plan:

"expressly identify and quantify the emissions, if any, of any such pollutant which will be allowed to result from the construction and operation of major new or modified stationary sources...."

The 1979 Bay Area Air Quality Plan analyzed the impact of population, transportation and industrial growth in the region. According to the best information currently available, major new industrial growth can be permitted in the region under the NSR program only by using emission offsets on a case-by-case basis.

DISCUSSION: The NSR constraints of the plan have led to statements that the Bay Area plan is "no growth" with respect to major industrial development. Under the previous 0.08 ppm photochemical oxidant standard, the requirements for hydrocarbon emission reductions were, in fact, quite severe. The recent relaxation of the ozone standard now permits additional flexibility in plan development. One area where this flexibility could be exercised is in planning for growth in an orderly manner.

During public review of the proposed modifications, it has been argued that the plan should provide for population increases and that the growth increment be available for population increases. As discussed in Chapter 2 of the Environmental Management Plan, as well as in various other parts of the plan, the entire Environmental Management Plan, of which the 1979 Bay Area Air Quality Plan is a part, was based on ABAG's projections of population, employment and housing in the San Francisco Bay Region. The plan was designed to accommodate an additional million people--and their associated jobs and housing--in the region by the year 2000. The population projections will be revised annually. If reasonable further progress is being demonstrated, and population is increasing faster than now anticipated, a portion of the emissions growth allowance could be used to account for emissions attributed to population growth beyond that currently projected. If reasonable further progress is not being achieved, additional controls will need to be considered.

STAFF RECOMMENDATION: Use the remaining hydrocarbon emissions that resulted from the standard change as a "growth allowance or growth increment" for the region. Approximately 20-25 tons/day of hydrocarbon emissions can be explicitly identified for this purpose. It is our understanding that ARB will approve this proposal on two conditions: (1) the NSR rule would remain as previously discussed, and (2) three years of "reasonable further progress" would have to be demonstrated, i.e., 1979-81. If such demonstrations are made, beginning in 1982 an agreed upon process for allocating the growth allowance could begin.

PROPOSED ALLOCATION OF THE ADDITIONAL ALLOWABLE HYDROCARBON EMISSIONS

Additional hydrocarbon emissions allowed by standard change	Approximately 122 tons/day
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Correction for updated EPA mobile source emission factors	~ 22 tons/day
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Remaining allowance	~ 100 tons/day
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Unresolved Issues

1. Technical uncertainty (~3%)	~ 18 tons/day
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2. NSR rule (adopt ARB model rule or equivalent)	~ 32 tons/day
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3. Delete heavy duty gasoline retrofit	~ 25 tons/day
--	---------------

4. Growth allowance or growth increment	~ 25 tons/day
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Remaining allowance	0
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SUMMARY OF THE COMPROMISE

The major unresolved issues and staff recommendations for dealing with these issues have been presented. In summary, the elements of the Bay Area and ARB compromise are:

1. ARB accepts Bay Area analysis that the impact of the recent standard change is approximately 122 tons/day. Less hydrocarbon emission reductions are needed to demonstrate attainment and maintenance of the revised ozone standard. That is, instead of approximately 450 tons/day being allowed, about 572 tons/day can be allowed and still meet the 0.12 ppm standard.
2. The additional 122 tons/day hydrocarbon emissions are taken up as follows:
 - (a) Approximately 22 tons/day are taken up by more recent EPA mobile source emission factors (needed if EPA is to approve the plan).
 - (b) Approximately 18 tons/day are taken up by a 3 percent uncertainty factor to be built into the baseline emission projections.
 - (c) Approximately 32 tons/day are taken by a lower emission reduction estimate for the soon-to-be adopted NSR rule by the BAAQMD.
 - (d) Approximately 25 tons/day are taken by deleting the heavy duty gasoline retrofit measure from the plan.
 - (e) Approximately 25 tons/day are to be set aside as a regional growth allowance or growth increment as permitted by §172(b)(5) of the Clean Air Act. The conditions previously discussed would have to be complied with before the growth increment could be used.

The 1977 Amendments to the Clean Air Act require that the non-attainment plan submitted under Section 172 of the act provide for reasonable further progress toward attainment of the Federal ozone and carbon monoxide standards. The effects of the proposed modifications on the Bay Area's ability to demonstrate reasonable further progress are shown in Figures 1 and 2. As shown, the 1979 Bay Area Air Quality Plan, as modified, will still provide more than the minimum reasonable further progress required under the act.

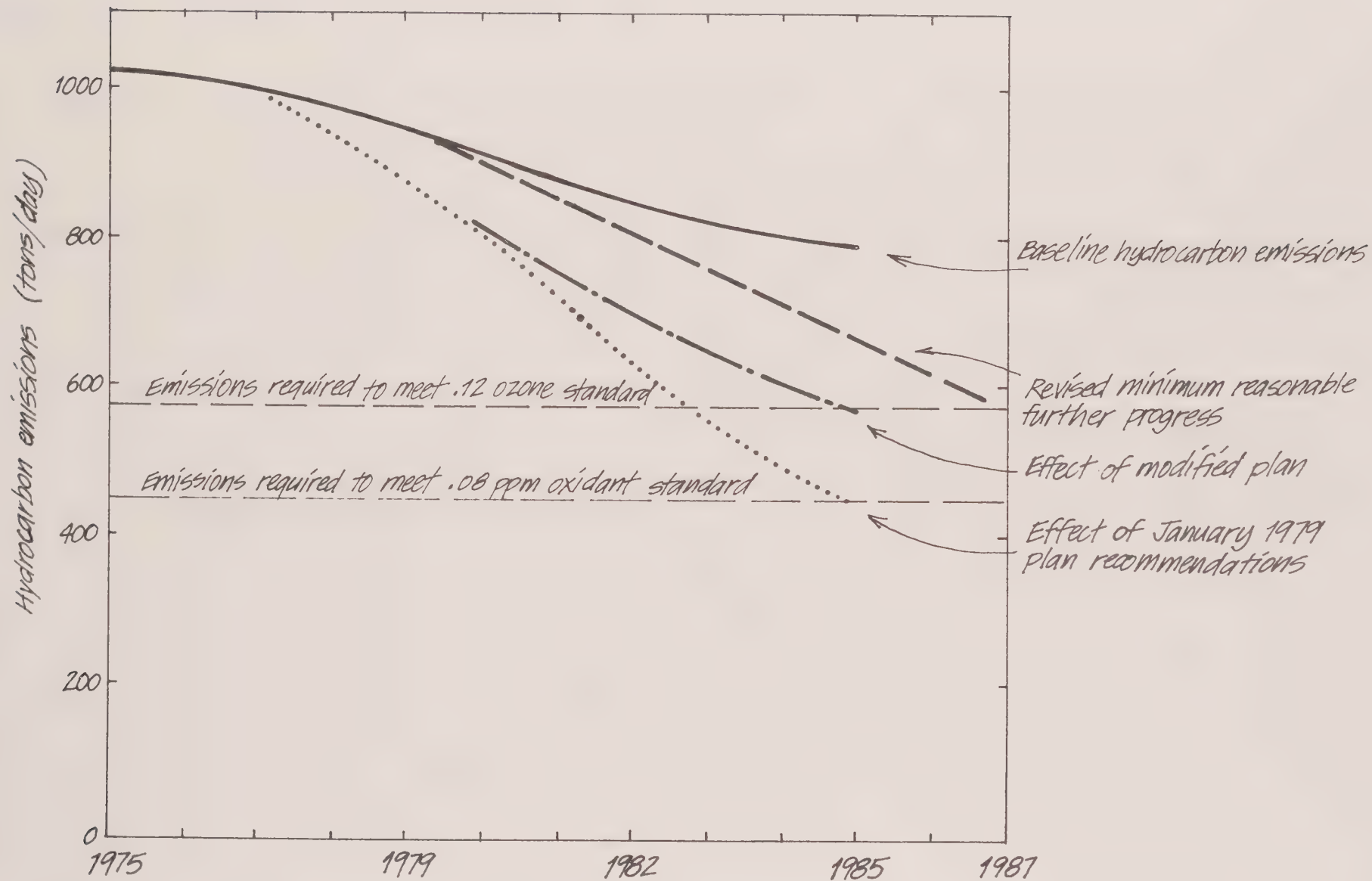


FIGURE 1 Estimated reasonable further progress toward achieving the .12 ppm ozone standard in the San Francisco Bay Area

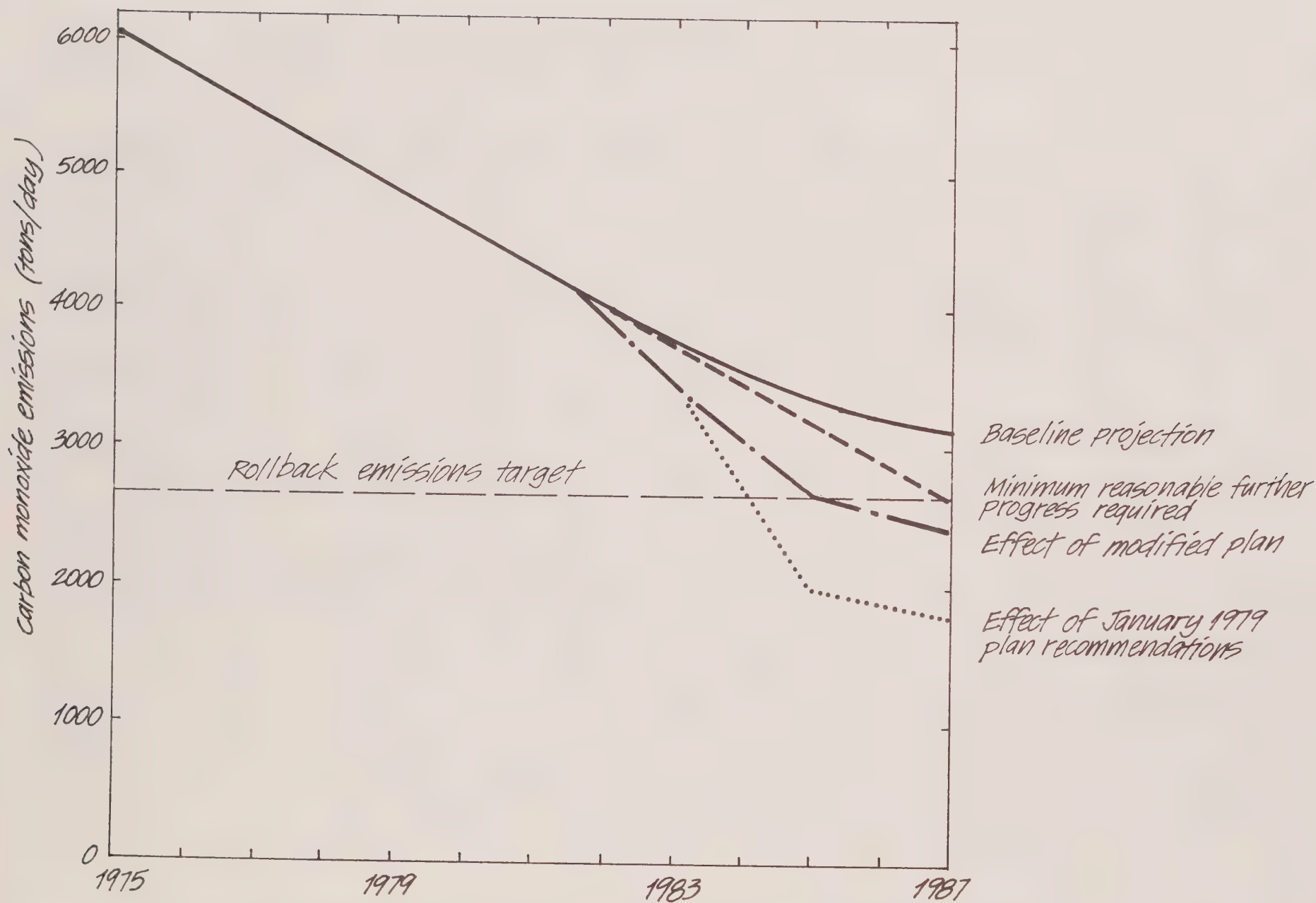


FIGURE 2 Estimated reasonable further progress toward attainment of the Federal Carbon Monoxide Standards (based on linear rollback and implementation of all recommended control programs)

V. PUBLIC COMMENTS ON THE PROPOSED MODIFICATIONS

The modifications to the 1979 Bay Area Air Quality Plan were proposed by the staff of the Association in a brief to the Regional Planning Committee on March 7, 1979. The Regional Planning Committee on March 14, 1979, recommended to the Executive Board that the proposed modifications be made to the plan. The Air Quality Advisory Committee met on April 3, 1979 to discuss the actions of the RPC and the recommendations for modifying the plan. At the April 19, 1979, Executive Board meeting, the board received public comments on the proposed modifications, and continued the public hearing until the Board's May 17, 1979, meeting. During the interim period, the Board directed the RPC to review the proposed modifications and directed the staff to discuss the proposed changes with the Air Quality Advisory Committee.

The Air Quality Advisory Committee met again on May 1, 1979. Comments and staff responses were reported to the RPC at its May 2 meeting. At the May 2 meeting of the RPC, the proposed modifications were reviewed, and the committee again recommended the modifications, with minor changes to the Executive Board resolution. Additional public comments were received at the Executive Board meeting on May 17, 1979.

This section includes a summary of all comments, oral and written, received by the Association on the proposed modifications.

AIR QUALITY ADVISORY COMMITTEE COMMENTS

The Air Quality Advisory Committee met on April 3, 1979 to discuss the recommendations for modifying the plan as described in the brief. In attendance were:

<u>Name</u>	<u>Affiliation</u>	<u>Name</u>	<u>Affiliation</u>
Stephen F. Snow	No. Calif. Motor Car Dealers	Barbara Stern	League of Women Voters, Bay Area
Ralph Mead	BAAQMD	Tim Machold	Air Resources Board
George F. Francis	Santa Clara County Planning	Ed Miller	EPA
John G. Hayes	BALIA	Charles Kinney	Building Industry Association
J.N. Henderson	Chevron	Tom Merle	Bay Area Council
Kaj E. Malthe	Solano Transp. Council	David Hayes	Port of Oakland
Jim Cutler	Contra Costa County Planning	S.K. Dritz, M.D.	S.F. Medical Society
Zen Jao	Federal Highway Admin/Reg.9	Ron Olson	CalTrans Dist.4, S.F.
E.E. Hayden	BALIA	F.R. Bottomly	Union Oil Co.
Dan Phelan	Bay Area Council	J.D. Joyce	Shell Oil Co.

Advisory Committee comments and staff responses are summarized as follows:

Comment

The ozone standard was raised by 50%, from 0.08 ppm to 0.12 ppm, yet the allowable hydrocarbon emissions are estimated to be raised by only 27%, from 450 tons/day to 572 tons/day. The technical adequacy of the method used to estimate the new allowable emissions level is therefore subject to question, particularly since in other parts of the State a proportional increase in allowable emissions is being assumed. The validity of the LIRAQ results in this new range has not been demonstrated.

Response

The method used to estimate the new allowable emissions level is the same method that was originally used under the old standard, namely, the results of LIRAQ sensitivity tests. The validity of these tests and their results can only be established when the emissions level in the region reaches the appropriate level and the ambient air quality data can be collected and analyzed. There is ample technical evidence from smog chamber studies and other modeling applications to support the contention that the relationship between hydrocarbon emissions and resulting ozone levels is not proportional. If proportionality were assumed and consistently applied to all calculations, then the allowable emissions level would be less than that indicated by the LIRAQ test results. Finally, if anything, greater confidence can be placed in the LIRAQ test results at 0.12 ppm ozone than at 0.08 ppm ozone since the higher level is closer to the level at which the model was originally validated.

Comment

The technical basis for changes in projected motor vehicle emission factors is questionable. Although it is recognized that the source of these changes is far removed from the Bay Area (both institutionally and geographically), and is unlikely to be influenced at the local level, decision-makers should be aware that the validity of such changes has not been demonstrated to the satisfaction of many members of the advisory committee.

The increased emissions projected for motor vehicles of 20-25 tons/day were estimated to occur without a vehicle inspection and maintenance program. Since an I/M program has been adopted, its effect should also apply to the 20-25 tons/day of emissions added as a result of revised emission factors.

Another alternative not pursued by staff or RPC is the possibility of modifying the adopted transportation controls. In particular, the increased transit service called for in the plan appears unrealistic, at best.

Response

The development of motor vehicle emission factors is conducted at the Federal level by EPA, based on surveillance test results, and review by motor vehicle manufacturers and the California Air Resources Board, among others. EPA is requiring that these latest revisions be used nationwide in the development of State Implementation Plan revisions. As with any forecast, the projected emission factors published by EPA are subject to question. However, there is no independent data base or expertise known to staff which would suggest that the latest revisions are invalid.

The 20-25 tons/day increase in hydrocarbon emissions due to revised motor vehicle emission factors was estimated without consideration of the effect of an I/M program. In comparing emission factors with and without an I/M program, it appears that the estimated increase should be reduced by 2-3 tons/day. However, it does not appear prudent to change the estimate at this time for the following reason: There are at present two bills introduced in the State Legislature which would authorize implementation of an I/M program in the Bay Area. One of these bills (AB 804) calls for a decentralized program rather than the centralized program (AB 84) assumed and adopted in the 1979 Bay Area Air Quality Plan. The amount of emissions reduction credit allowed by EPA for a decentralized program is generally less than that allowed for a centralized program, and the difference is estimated to be 2-4 tons/day. If the decentralized program is authorized rather than the centralized program, the effects will be offsetting.

Increased transit service is primarily hindered by decreasing subsidies from property tax, and Federal sources. Since the increased transit service measure adopted in the plan is contingent on the availability of such funds, no modification of this measure is necessary at this time.

Comment

The economic benefits of each additional ton of emissions allowed should be quantified to illustrate the importance of maximizing the growth allowance for the region. It should also be noted that there are likewise costs incurred by allowing air pollution to occur, in terms of materials damage and possible adverse health effects.

There appears to be more potential than 32 tons/day to be gained from New Source Review--in the petroleum refining category alone, if a one for one offset is assumed a minimum of 20 tons/day can be reduced by 1985, and the figure is likely to be higher. Additional analysis and documentation of the permit record maintained by the BAAQMD could reveal that the 32 tons/day is an underestimate.

-24- A more rigorous analysis of the recommended plan modifications and their underlying data bases is needed. The analysis should include:

- Additional tests of the LIRAQ model at the 0.12 ppm ozone level.
- Review of the basis for motor vehicle emission factor revisions
- Review of the potential effectiveness of New Source Review
- Review and reconciliation of the dispute between ARB and BAAQMD regarding the emission inventory in certain organic solvent categories.

With respect to the last item, some advisory committee members thought it unfair that the ARB inventory was not available for rigorous inspection as was the BAAQMD inventory.

The unscheduled and premature adoption of the staff-recommended plan modifications by the ABAG Regional Planning Committee took place without the benefit of prior review by the Air Quality Advisory Committee. (Several committee members objected to this as a violation of the process which had been followed during the development of the plan, and considered the action a "breach of trust" by ABAG staff.)

Response

The cost-effectiveness of the various controls in the plan ranged roughly from \$200 per ton to \$10,000 per ton of hydrocarbons removed.

The permit record for one year has been reviewed and the results described in the brief. Based on those results, 32 tons/day appears to be realistically achievable. Staff believes that the original 64 tons/day estimate was achievable, although optimistic. The new model NSR rule currently under consideration is less stringent than the existing rule. Moreover, the 20 tons/day cited must also be discounted by the effect of applying Available Control Technology as adopted in the plan. 32 tons/day is considered to be a reasonable estimate.

Staff intends to conduct a more rigorous analysis as part of the continuing planning process. Tasks are identified in a Clean Air Act Section 175 grant application submitted to EPA which is currently under review. The grant is not expected to be approved before July 1 of this year, and may easily be delayed beyond that time. The analysis cannot be completed in time for incorporation into an SIP revision by July 1, 1979.

RPC was scheduled to consider adoption of the staff recommendations at its April 11 meeting, to be followed by ABAG Executive Board consideration on April 19. The Air Quality Advisory Committee meeting was scheduled for and held on April 3. It was the staff intent to provide Advisory Committee comments to RPC at its April 11 meeting.

Comment

ARB has not provided documentation or analyses to support their contention that a heavy-duty gasoline truck retrofit program is infeasible.

There was no objection to the creation in the plan of a growth allowance for the region.

Response

This point is made in the brief.

SUMMARY OF PUBLIC COMMENTS AND STAFF RESPONSES
ABAG EXECUTIVE BOARD PUBLIC HEARING
APRIL 19, 1979

Person or Agency/Comment

Bay Area Air Quality Management District:

At its meeting April 18, the District Board approved a report presented by staff stating: "The District staff recommends that the Board approve the ABAG Executive Board proposed resolution with the one reservation that the administration of any emission growth allowance be retained within the District permit review process."

Donald Forman, Bay Chapter, Sierra Club:

The plan, as weak as it is, should not be weakened further. The new EPA standards gave minimal protection, and Bay Area deserves a plan at least as stringent as required under the old standard. Questioned accuracy of figures used to justify either the new plan or the old one. EPA standard for ozone is inadequate; there should be some form of regional land use control to limit pollution. The plan was inadequate in plans and financing for mass transit. Club would like to see heavy duty vehicle retrofit. He added the proposal of 32 tons per day ozone reduction credit for NSR appeared unsubstantiated.

Staff Response

Proposed Executive Board resolution calls for joint development of a decision-making process for the use of the emissions growth allowance. ABAG staff recognizes that any portion of the growth allowance allocated for sources requiring air quality permits would become an integral part of the District's permit program. The question is how social and economic considerations and other community goals will be considered in the decision-making process. ABAG staff believes this can be mutually agreed upon between the District and ABAG during the continuing planning process, as described in the proposed resolution.

Land use controls considered and rejected in process of developing the plan. Financing for mass transit reflects current fiscal realities. Heavy duty vehicle retrofit proposed for removal at request of ARB because of questions of public acceptability and technical feasibility. Proposed modification of emission reduction target for NSR does not change stringency of rule; reductions more or less than 32 tons/day may be achieved by implementing rule, but target appears reasonable.

Person or Agency/CommentStaff Response

Daniel Van Voorhis, Coalition of Labor and Business:

COLAB considers compromise to be good-faith effort but there are number of other alternatives available. There had been misunderstanding as to when compromise would be acted on, and further, since thirteen RPC members had not attended April 11 meeting, possibly action might not have been true reflection of members' feelings. He asked that ABAG reaffirm its procedures. He noted SB 2167 (Nejedly), passed last year, had changed law, requiring ARB to get ABAG's approval to any changes to ABAG's plan. He therefore felt there was no need to compromise. He suggested referring matter back to RPC and Technical Advisory Committee for their suggestions.

Executive Board on April 19 voted to continue public hearing to May 17, and requested RPC to consider proposed compromise again at its May 2 meeting. Staff also called an Air Quality Advisory Committee meeting on May 1; comments will be reported to RPC and Executive Board.

Councilmember Diana Patrick, City of Martinez:

City of Martinez is county seat of Contra Costa County and home of a number of oil refineries as well as industries which go along with them. It is a little early to be compromising. Some adjustments need to be made, but community in general had not been given input they deserved. There has been talk about a cancer study which has not gotten off the ground; standards are lessened before public really knew to what degree this pollution was harmful. She said cost to people's health, or in their homes by having to replace paint, or deterioration of other things, such as agricultural life, should be considered. Advisory committee is composed of 11 members related to industry and nine public members. She considered this inappropriate. She felt it was important to be sure that any decision was made in interests of public.

Advisory Committee comments and all other public comments will be reported to RPC and Executive Board. Health and welfare benefits of pollution control have been considered and documented in the plan. There are approximately 100 people of varying affiliation on the Advisory Committee mailing list, and all are welcome to participate in Committee meetings. The representation at any single meeting may vary considerably.

SUMMARY OF PUBLIC COMMENTS AND STAFF RESPONSES

Person or Agency/Comment

Jean B. Siri, Gray Panthers of Contra Costa County and West Contra Costa County Conservation League:
Contra Costa County had cancer and respiratory illness in excess, as well as unemployment. An effort has been under way for 10 years to get a cancer study going in Contra Costa County, but in one year the health department had been able to hire only two people. If there is going to be any relaxation with hydrocarbon controls, it should be on new sources, and health problems of Bay Area should be considered.

Barbara Stern, League of Women Voters of Bay Area:
No change should be made in plan. If no changes were made, the .12 ppm new EPA standard would be attained by about 1983-84, and that would mean we would breathe unhealthy air for another four to five years. ABAG should proceed without delay toward goal of air that is safe to breathe.

Angelo J. Siracusa, Executive Director of Bay Area Council:
Council supports action taken by RPC at its March 14 meeting to recommend AQMP amendments; draft resolution before Executive Board not entirely consistent with RPC's action. He requested amendments be made to draft resolution to bring it in line with RPC action. Council also suggests that in transmitting 1979 Bay Area AQMP to State Air Resources Board, Executive Board specifically convey ABAG's intention to update plan's data base, and to consider amendments to plan prior to 1982. The Council felt it was important to state outright: the Bay Area does not consider itself bound to the 1979 plan until the next scheduled full-scale update in 1982, and reserves the right to amend its plan at any time.

Staff Response

See response to Councilmember Diana Patrick.

Staff believes changes in plan should be made to accommodate concerns of Air Resources Board and make plan approvable, submitting to EPA without delay.

Staff agrees with intent of BAC suggested changes to draft resolution, and will recommend appropriate modifications to resolution. Staff understands SIP amendments can be made at any time with approval by EPA.

Person or Agency/CommentStaff Response

Jeff Gabe, Citizens for a Better Environment:

Last year was worst year in Bay Area in about ten years for air quality as far as ozone was concerned. We have a long way to go. Now is not time to talk about what a great plan we had and relax it to meet .12 ppm standard. That type of sentiment would be appropriate when and if we met the standard. Graph on page 19 of report shows that, even with the plan, no change by 1982, air quality in Bay Area would still be in excess of .12 ppm standard as proposed by EPA. Finds it very difficult to endorse any weakening of plan, and said if anything, it should be strengthened.

Expressed several concerns about compromise, one of which was the question of accuracy and the large excess of the ozone standard last year. CBE questions validity of new source review tradeoffs and has serious concerns about adding any growth increment, relaxing our diligence to improve air quality until .12 ppm standard was met. The standard had been established on health basis, and although there was much discussion as to whether or not it was valid, Bay Area has to aim for it until it is met; there is no sense in easing up.

Air Resources Board staff:

Requested word "adopt" in last resolved clause of resolution be changed to "accept."

Ruth H. Koehler, former member, EMTF:

Many components of original plan completed without Federal or State guidelines. Because of this, building in updated emission factors and a margin of uncertainty is acceptable. Margin of uncertainty may be greater than 3% proposed.

Deleting heavy duty retrofit seems reasonable given question of conclusive technical and political feasibility.

See response to Barbara Stern, League of Women Voters.

Staff agrees and will recommend change to RPC and Executive Board.

Staff agrees range of uncertainty may be greater; uncertainty goes in both directions; 3% seemed to be a responsible figure, giving ARB "benefit of the doubt."

None needed.

SUMMARY OF PUBLIC COMMENTS AND STAFF RESPONSES

Person or Agency/Comment

Staff Response

Ruth H. Koehler (cont'd.)

Differences between ARB and Bay Area Plan on target for NSR can be likened to auditors' differences over accounting methods. Definite credits should be included. Proposed modifications are a middle ground; and this leaves existing industry to clean up 225 tons/day--the same amount as in original plan.

None needed.

Out of number juggling emerges growth allowance of 20-25 tons/day. This needs to be reviewed in relation to requirements of Clean Air Act for reasonable further progress. Applauds RPC action to review updated technical information. If yearly progress can be demonstrated, it makes sense to allocate growth allowance. Views RPC as appropriate forum to monitor compliance and allocate growth allowance.

Staff agrees with Ms. Koehler's interpretation.

In summary, compromise is a reasonable effort and modifications deserve approval as acceptable and consistent with the original plan.

None needed.

The Air Quality Advisory Committee met a second time on May 1, 1979, to discuss the recommended modifications to the plan. This meeting was held at the direction of the ABAG Executive Board. In attendance were the following individuals:

<u>Name</u>	<u>Affiliation</u>	<u>Name</u>	<u>Affiliation</u>
J.D. Joyce	Shell Oil Company	Ruth H. Koehler	Private citizen
Gary Shawley	Alameda County	John Holtzclaw	Sierra Club
Barbara Stern	League of Women Voters of Bay Area	Jeff Gabe	Citizens for a Better Environment
John G. Hayes	BALIA	George F. Francis	Santa Clara County Planning Dept.
Eveleth E. Hayden	BALIA	Bruce Beyaert	Chevron, USA
Jim Ryerson	CA Air Resources Board	Mike Macomber	BAAQMD
Ed Miller	EPA	James Fong	Caltrans
Tim Machold	CA Air Resources Board	Bonnie England	Coalition of Labor and Business
Ron Hurlbut	Institute of Traffic Engineers	Tom Merle	Bay Area Council
Kristina Bergquist	PG&E	Dennis Korabiak	City of San Jose
Alan Ungar	CA Council for Environmental and Economic Balance		

Additional Advisory Committee comments and staff responses made at this meeting are summarized as follows:

<u>Comment</u>	<u>Response</u>
It should be made clear that any further review and update of emission inventories and air quality projections is contingent on the magnitude and timing of funding for the continuing planning process.	Staff agrees.
It is a dangerous precedent to "give away" emission reduction credits for uncertainty since uncertainties have both positive and negative implications. Alternate wording should be used to characterize the issue (technical uncertainty) to indicate the unique local conditions under which the compromise was achieved. Also, it should be mentioned that the magnitude of tonnage assigned to this issue may be adjusted in the future as more and better data are obtained.	Staff agrees. An explanatory footnote will be added to the text of the Report on Plan Modifications.

Comment

The plan should not be compromised until the ozone standard is achieved. Likewise, the proposed growth allowance should not be made available for use until the standard is achieved. Until the "reasonable further progress" concept is better defined, its use as the basis for releasing the growth increment does not appear wise.

The growth allowance is based on the best possible analysis and should be available for use now rather than three years from now.

The New Source Review process has been conducted apart from the overall air quality planning process in the Bay Area. ABAG should provide input to the BAAQMD deliberations on the new ARB model NSR rule, particularly regarding the potentially counterproductive aspect of requiring offsets for NO_x emissions. Further, the growth allocation identified in the compromise should be used to reduce the offset requirements of whatever NSR rule is adopted.

Any decisions regarding NO_x offsets or emission controls should be made in the context of potential adverse effects of NO_x on oxidant levels outside as well as within the Bay Area.

It should be clarified in the Report on Plan Modifications that the growth allocation applies specifically to stationary sources.

Response

This is one point of view. See the following comment for another.

See the previous comment. The compromise to require demonstration of reasonable further progress before the growth allocation may be used is considered a reasonable solution to conflicting points of view.

The BAAQMD staff are equally aware of the implications of NO_x controls on oxidant in the Bay Area, and can so inform the BAAQMD Board.

Proposed Executive Board resolution calls for joint development of a decision-making process for the use of the emissions growth allowance. ABAG staff recognizes that any portion of the growth allowance allocated for sources requiring air quality permits would become an integral part of the District's permit program. The question is how social and economic considerations and other community goals will be considered in the decision-making process. ABAG staff believes this can be mutually agreed upon between the District and ABAG during the continuing planning process, as described in the proposed resolution.

This is pointed out in the Report on Plan Modifications.

Agreed. This was the staff intent, and appropriate modifications to the text of the report will be made.

SUMMARY OF WRITTEN COMMENTS AND STAFF RESPONSES

Two letters were received from members of the Air Quality Advisory Committee, and are summarized as follows:

Letter from John H. Henderson, Chevron U.S.A., Inc. to Ron Wada, ABAG staff, April 11, 1979.

The ozone standard was raised by 50%, from 0.08 ppm to 0.12 ppm, yet the allowable hydrocarbon emissions are estimated to be raised by only 27%, from 450 tons/day to 572 tons/day. The technical adequacy of the method used to estimate the new allowable emissions level is therefore subject to question, particularly since in other parts of the State a proportional increase in allowable emissions is being assumed. The validity of the LIRAQ results in this new range has not been demonstrated.

The technical basis for changes in projected motor vehicle emission factors is questionable. Although it is recognized that the source of these changes is far removed from the Bay Area (both institutionally and geographically), and is unlikely to be influenced at the local level, decision-makers should be aware that the validity of such changes has not been demonstrated to the satisfaction of many members of the advisory committee.

The increased emissions projected for motor vehicles of 20-25 tons/day were estimated to occur without a vehicle inspection and maintenance program. Since an I/M program has been adopted, its effect should also apply to the 20-25 tons/day of emissions added as a result of revised emission factors.

There appears to be more potential than 32 tons/day to be gained from New Source Review--in the petroleum refining category alone, if a one for one offset is assumed a minimum of 20 tons/day can be reduced by 1985, and the figure is likely to be higher. Additional analysis and documentation of the permit record maintained by the BAAQMD could reveal that the 32 tons/day is an underestimate.

A more rigorous analysis of the recommended plan modifications and their underlying data bases is needed. The analysis should include:

- o Additional tests of the LIRAQ model at the 0.12 ppm ozone level.
- o Review of the basis for motor vehicle emission factor revisions.
- o Review of the potential effectiveness of New Source Review.
- o Review and reconciliation of the dispute between ARB and BAAQMD regarding the emission inventory in certain organic solvent categories.

With respect to the last item, some advisory committee members thought it unfair that the ARB inventory was not available for rigorous inspection as was the BAAQMD inventory.

The unscheduled and premature adoption of the staff-recommended plan modifications by the ABAG Regional Planning Committee took place without the benefit of prior review by the Air Quality Advisory Committee. (Several committee members objected to this as a violation of the process which had been followed during the development of the plan, and considered the action a "breach of trust" by ABAG staff.)

Response

These issues were previously addressed in staff responses to Air Quality Advisory Committee comments made at their April 3 meeting, and summarized for RPC and Executive Board.

Letter from Bruce Beyaert, Chevron U.S.A., Inc. to Eugene Leong, ABAG staff, May 4, 1979.

EPA allows approximately a 50% reduction in automobile exhaust emissions for an inspection and maintenance program. What kind of I/M program and what emission reduction credit was assumed in the ABAG AQMP?

Response

The I/M program assumed in the 1979 Bay Area Air Quality Plan was a centralized, State administered program. A thirty-five percent failure rate was assumed, patterned after the program in the South Coast Air Basin, with no credit taken for mechanic training. Implementation was assumed to begin in 1982, and the effectiveness of the program was estimated to be approximately twenty-two percent for hydrocarbons from light-duty vehicles by 1985. The differences between this result and the fifty percent figure cited from EPA materials can be explained as follows:

- o The effectiveness estimate for 1985 was targeted to be consistent with all other estimates in our plan, while the EPA estimates are for 1987. (The two additional years of operation will increase the effectiveness estimate.)
- o No credit for mechanic training was taken, and it is unclear to us just what it would take to get prior approval from EPA to take such credit.
- o The vehicle mileage mix assumed was based on ARB data rather than the figures assumed by EPA. Generally, the older vehicle population in California means that type III and IV vehicles identified by EPA as having higher I/M effectiveness constitute a smaller fraction of the total than assumed by EPA.

We, of course, intend to reexamine the effectiveness of I/M in the next round, along with other control programs, since there are significant uncertainties in this area and new data is being generated at a rapid pace.

WRITTEN COMMENTS RECEIVED
AND STAFF RESPONSES

Letter from Supervisor Eric Hasseltine, Contra Costa County:

Concerned that proposed modifications have the effect of denying the Bay Area reasonable benefit of the EPA action (change in standard) and forces us to accept population forecasts as objectives in themselves. Propose Executive Board action to:

- o Reserve right to apply growth increment to actual population increases as well as industrial expansion.
- o Allow benefits of the change in the standard to be available immediately instead of reserving them to post-1981.
- o Reallocate the allowance for technical uncertainty to full use within the plan. Projections are the most accurate and technically substantive of any plan anywhere.

Also suggested that Executive Board action be confirmed by the General Assembly.

Staff Response:

Executive Board on May 17, 1979, provided that the emissions growth allowance could be used for additional population growth beyond the population level assumed in the plan. Clarifying text regarding the update of ABAG's projections will be added to the report. Our understanding of EPA policy issued in the April 4, 1979 issue of the Federal Register precludes the use of any emissions growth allowance before 1982 if a non-attainment plan calls for an extension in the deadline for attainment of the ozone or carbon monoxide standard to 1987. Clarifying text regarding the meaning of technical uncertainty will be added to the report. A more accurate description of the proposed modification is that ARB accepts Bay Area analysis but Bay Area staffs acknowledge need to update emissions inventory.

Letter from State Senator John A. Nejedly, Contra Costa County,
Seventh Senatorial District:

Expressed concern about the actions proposed for Executive Board consideration. Summarized intent of his bill (SB 2167) that ABAG and CARB should apply Federal law and that CARB, in reviewing the Bay Area plan, could not unilaterally change the plan but had to refer any changes back to ABAG.

The inclusion of present State rules into the plan would inhibit the ability of the state to change its rules without EPA concurrence. The reason for the second aspect of SB 2167 (veto power to ABAG over any changes in its original plan by CARB) arose out of the universal recognition that the high degree of technical uncertainty inherent in air quality planning made many if not most decisions political or philosophical rather than scientific. Under these circumstances, I would recommend the following approach:

- o Executive Board approve a plan to meet federal requirements which consistently apply to all states.
- o Submittal of changes to General Assembly to ensure broadest possible support.

Staff Response:

ARB concerns expressed to Bay Area did not require that plan be modified to provide for attainment of state standards, and therefore proposed modifications deal with Federal requirements. ARB indicated to Bay Area its desire to submit the Bay Area plan, as proposed to be modified, to EPA. Executive Board on May 17, 1979, after amending the resolution to respond to comments received, did not feel it necessary to refer the proposed modifications to the General Assembly.

Letter from Staff of Air Quality Project/II, Don Solem and Associates,
San Francisco:

Asked Executive Board members to approve recommendations of Supervisor Hasseltine and others. Also calls attention to letter from Senator Nejedly.

Staff Response:

See responses to Supervisor Hasseltine and Senator Nejedly.

SUMMARY OF PUBLIC COMMENTS AND STAFF RESPONSES
ABAG EXECUTIVE BOARD PUBLIC HEARING
MAY 17, 1979

Person or Agency/Comment

Staff Response

John Holtzclaw, Sierra Club:

As a member of RPC, he voted for compromise proposal, although did not believe plan, as it is, is completely adequate. EPA was wrong in relaxing standard. Any reduction from plan from what has been approved would not be a demonstration of good faith and might jeopardize request for extension. Cleaning up air has strong support from public. Do not expect the Clean Air Act to be ignored; if law is not enforced by EPA there are legal remedies.

None needed.

Angelo Siracusa, The Bay Area Council:

Submitted proposed amendments to proposed resolution; proposals were in keeping with spirit of compromise but also protected Bay Area's right to reconsider the plan. Suggested ABAG not specify that growth allowance be for stationary sources; and that alternatives for decision-making process on growth allowance be developed by October 31, 1979.

Executive Board accepted, with minor wording changes, BAC's proposed amendments to the resolution.

Jeff Gabe, Citizens for a Better Environment:

CBE opposes the compromise; asked that plan adopted in January be left the same, and meet new standard sooner. Reasonable further progress is an abstract concept. Special concern with growth allowance; did not believe it should be used until standard is attained.

See response to Barbara Stern in summary of public comments from April 19, 1979 public hearing.

VI. INDEX OF CHANGES TO JANUARY 1979 BAY AREA AIR QUALITY PLAN TABLES

The plan recommendations for reducing hydrocarbon emissions sufficiently to attain the Federal photochemical oxidant standard and the standards for carbon monoxide were shown in Tables 28 and 46 of the January 1979 version of the 1979 Bay Area Air Quality Plan.

This section shows how the plan recommendation tables would be modified by the changes proposed in the plan as a result in the revised standard for ozone:

Action 1 (Available Control Technology on existing hydrocarbon sources...) - No change

Action 2 (Continue New Source Review and use technology to produce lowest achievable emission rate on new and modified sources...) - Reduce emission reduction target from 64 tons/day in 1985 hydrocarbon emissions to 32 tons/day

Action 3 (More stringent vehicle exhaust emission controls) - No change

Action 4 (Motor vehicle inspection/maintenance) - No change

Action 5 (Heavy duty retrofit) - Delete

Action 6 (Permit no further delays in implementing motor vehicle emission controls...) - No change

Actions 7 through 12 (Transportation Controls) and Action 13 (Maintenance Measures) - No change

The following change would be made in Table 46, the plan recommendations for carbon monoxide:

Action 2 (Heavy duty retrofit) - Delete

It is anticipated that the text of the 1979 Bay Area Air Quality Plan will be revised during the coming year. References to the deleted control measures in the plan text will be eliminated, and other modifications to the text will be made to show the analysis described in this report. Taken together, this report and the accompanying 1979 Bay Area Air Quality Plan, form the basis for the State Implementation Plan submittal by the Air Resources Board for the San Francisco Bay Area.

APPENDIX A

BAAQMD RESOLUTION ON CONSIDERATION
OF CONTROL TECHNIQUE GUIDELINES
OF THE ENVIRONMENTAL PROTECTION
AGENCY

1 BEFORE THE BOARD OF DIRECTORS
2 OF THE
3 BAY AREA AIR QUALITY MANAGEMENT DISTRICT

4 In the Matter of the Consideration
5 of Control Technique Guidelines
6 Promulgated by the U. S. Environmental
7 Protection Agency

RESOLUTION NO. 1127

8 WHEREAS, the Clean Air Act requires that an implementation
9 plan relating to a non-attainment area must provide for the imple-
10 mentation of all reasonably available control measures as expedi-
11 tiously as practicable;

12 WHEREAS, the State of California Air Resources Board must
13 submit a revised implementation plan to the U. S. Environmental
14 Protection Agency;

15 WHEREAS, the U. S. Environmental Protection Agency has
16 promulgated a first group of control technique guidelines specifying
17 what it has determined to be reasonably available control technology
18 to control organic emissions during certain industrial operations;

19 WHEREAS, this Board is in the process of considering and
20 adopting regulatory requirements mandating the use of the technology
21 set forth in the U. S. Environmental Protection Agency's first
22 group of control technique guidelines;

23 WHEREAS, the U. S. Environmental Protection Agency has
24 now embarked upon the promulgation of a second group of control
25 technique guidelines relating to organic emissions;

26 WHEREAS, the California Air Resources Board has advised
the District that the revised implementation plan which it must

1 submit to the U. S. Environmental Protection Agency will be
2 inadequate unless it includes a provision indicating that this
3 district will consider the U.S. Environmental Protection Agency's
4 second group of control technique guidelines within the time frame
5 requested by U.S. Environmental Protection Agency, and that this
6 District will adopt requirements mandating use of the reasonably
7 available control technology identified in the guidelines, or their
8 equivalent, as required by the Clean Air Act;

9 WHEREAS, this Board intends to provide for the imple-
10 mentation of all reasonably available control measures as expedi-
11 tiously as practicable, as required by the Clean Air Act; and

12 WHEREAS, this Board desires to cooperate in the
13 California Air Resources Board's efforts to submit an approvable
14 revision of the implementation plan to the U.S. Environmental
15 Protection Agency;

16 NOW, THEREFORE, BE IT RESOLVED that this Board hereby
17 expresses its intent to review and consider, within the time frame
18 requested by the U.S. Environmental Protection Agency, the control
19 technique guidelines being promulgated by the U.S. Environmental
20 Protection Agency for organic emissions; and

21 BE IT FURTHER RESOLVED that this Board intends to
22 require the implementation of all reasonably available control
23 measures as expeditiously as practicable, as required by the
24 Clean Air Act.

25 The foregoing resolution was duly and regularly intro-
26 duced, passed and adopted at a regular meeting of the Board of

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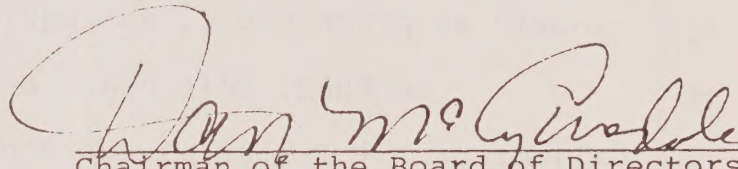
1 Directors of the Bay Area Air Quality Management District on the
2 motion of Director HASSELTINE, seconded by
3 Director CHAPMAN, on the 21st day of March, 1979
4 by the following vote of the Board:

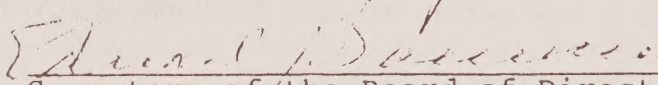
5 AYES: ASERA, BACCIOCCO, BOXER, CHAPMAN, COOPER, CORTESE,
6 HASSELTINE, HILLIGOSS, KETCHAM, LANDIS,
7 MCCORQUODALE, OGAWA, RAYMOND, ROBERTS.

8 NOES: NONE.

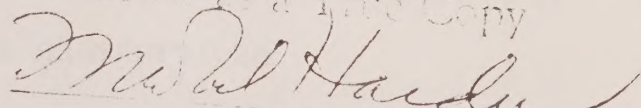
9
10 ABSENT: DOETSCH, FERRITO, KOPP, SILVER.

11
12
13
14 ATTEST:

15 
Chairman of the Board of Directors

16 
Secretary of the Board of Directors

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20 Certified as a True Copy

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22 Clerk of the District

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